Automotive
Energy & Power Analysis
Field Service
Environmental
Research & Development

DEWE-50-USB2-16

Technical reference manual

ISO9001

... the precision signal conditioning company

worldwide
DEWETRON
www.dewetron.com

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Warranty Information

A copy of the specific warranty terms applicable to your DEWETRON product and replacement parts can be obtained from your local sales and service office.

Support

For any support please contact your local distributor first or DEWETRON directly.

For Asia and Europe, please contact:

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Safety instructions

Safety symbols in the manual

Indicates hazardous voltages.

WARNING	*Calls attention to a procedure, practice, or condition that could cause bodily injury or death.*

CAUTION	*Calls attention to a procedure, practice, or condition that could possibly cause damage to equipment or permanent loss of data.*

WARNINGS

The following general safety precautions must be observed during all phases of operation, service, and repair of this product. Failure to comply with these precautions or with specific warnings elsewhere in this manual violates safety standards of design, manufacture, and intended use of the product. DEWETRON Elektronische Messgeraete Ges.m.b.H. assumes no liability for the customer's failure to comply with these requirements.

All accessories shown in this document are available as option and will not be shipped as standard parts.

For safety reasons max. 50 V may be applied to the BNC input-connectors!
Refer to the regulation of maximum allowable touch potential.

Safety instructions for all DEWETRON systems

- The DEWETRON data acquisition systems may only be installed by experts.
- Read your manual before operating the system.
- Observe local laws when using the instrument.
- Ground the equipment: For Safety Class 1 equipment (equipment having a protective earth terminal), a non interruptible safety earth ground must be provided from the mains power source to the product input wiring terminals or supplied power cable.
- DO NOT operate the product in an explosive atmosphere or in the presence of flammable gases or fumes and do not bring the system in contact with water.
- DO NOT operate damaged equipment: Whenever it is possible that the safety protection features built into this product have been impaired, either through physical damage, excessive moisture, or any other reason, REMOVE POWER and do not use the product until safe operation can be verified by service-trained personnel. If necessary, return the product to a DEWETRON sales and service office for service and repair to ensure that safety features are maintained.
- Keep away from live circuits: Operating personnel must not remove equipment covers or shields. Procedures involving the removal of covers or shields are for use by service-trained personnel only. Under certain conditions, dangerous voltages may exist even with the equipment switched off. To avoid dangerous electrical shock, DO NOT perform procedures involving cover or shield removal unless you are qualified to do so.
- No modifications are allowed at the instrument. The fuse in the power module has to be replaced by the same type. For continued protection against fire, replace the line fuse(s) only with fuse(s) of the same voltage and current rating and type. DO NOT use repaired fuses or short-circuited fuse holder labels and print on the power module may not be removed.
- DO NOT service or adjust alone. Do not attempt internal service or adjustment unless another person, capable of rendering first aid and resuscitation, is present.
- DO NOT substitute parts or modify equipment: Because of the danger of introducing additional hazards, do not install substitute parts or perform any unauthorized modification to the product. Return the product to a DEWETRON sales and service office for service and repair to ensure that safety features are maintained.
- Before opening the instrument (experts only) or exchanging the fuse in the power module disconnect power!
- Don’t touch internal wiring!
- Don’t use higher supply voltage than specified and take care of the correct polarity, otherwise the system will be damaged!
- Use only original plugs and cables for harnessing.
- Install filler-panels in unused slots.
- The power-cable and -connector serve as Power-Breaker. The cable must not exceed 10 feet, disconnect function must be possible without tools.
- Keep the ventilation slots free and check them frequently to avoid an overheating of the system. The cleaning interval of the filter pads depends on the environmental conditions.
- Safety of the operator and the unit depend on following these rules.
- DEWETRON is not responsible for any damage or injury that could result from improper connection or misuse!

General Information

CAUTION

- The system BIOS is protected by password. Any change in the BIOS may cause a system crash. When the system is booting, do not press ESC-button on keyboard. This may clear the BIOS settings and cause system faults.
- Any change in the file structure as deleting or adding files or directories might cause a system crash.
- Before installing software updates contact DEWETRON or your local distributor. Use only software packages which are released by DEWETRON. Further informations are also available in the internet (http://www.dewetron.com).
- After power off the system wait at least 10 seconds before switching the system on again. Otherwise the system may not boot correct. This prolongs also the life of all system components.

Environmental Considerations

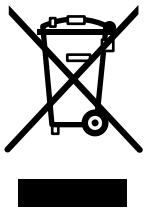
Information about the environmental impact of the product.

Product End-of-Life Handling

Observe the following guidelines when recycling a DEWETRON system:

System and Components Recycling

Production of these components required the extraction and use of natural resources. The substances contained in the system could be harmful to your health and to the environment if the system is improperly handled at it's end of life! Please recycle this product in an appropriate way to avoid an unnecessary pollution of the environment and to keep natural resources.



This symbol indicates that this system complies with the European Union's requirements according to Directive 2002/96/EC on waste electrical and electronic equipment (WEEE). Please find further informations about recycling on the DEWETRON web site www.dewetron.com

Restriction of Hazardous Substances

This product has been classified as Monitoring and Control equipment, and is outside the scope of the 2002/95/EC RoHS Directive. This product is known to contain lead.

16 channel data acquisiston for USB2

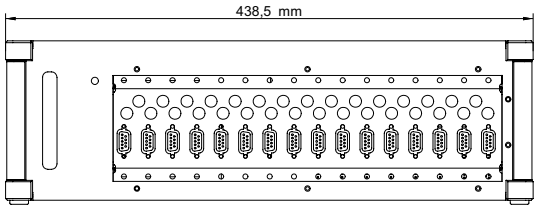
Features:

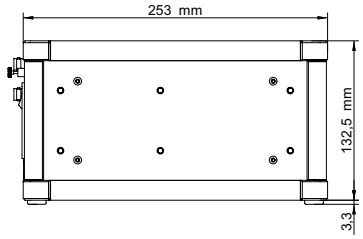
- Prepared for up to 16 DAQ or PAD modules
- USB interface, easy to use, cable lenght up to 5 m
- 12-bit with 100 kS/s or 16-bit up to 500 kS/s (all multiplexed)
- Synchronization of several systems
- **Optional (DEWE-USB2-16-AUTO)**
- 2 x synchronized CAN-bus (up to 1 MBit/s)
- 5 x counter / encoder channels (isolated)
- RS485 interface for EPAD series modules
- DC power supply with integrated battery

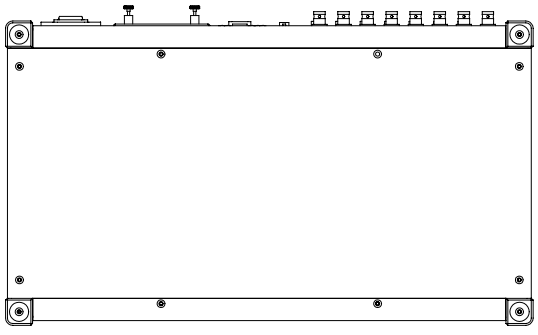
Specifications

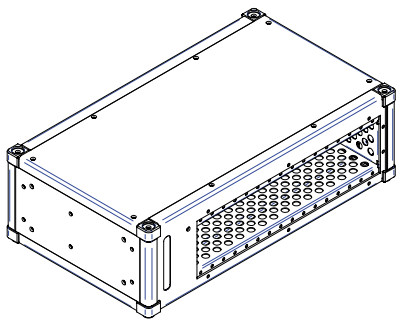
	DEWE-50-USB2-16
Power supply:	❑ 160 W DC NET-202 + accu power supply (10 to 32 V) ❑ 60 W AC SPS-060-D3 (100 to 250V) ❑ 50 W DC standard power supply (9 to 36 V) for details see next pages
Signal input:	DEWE-DAQ series moduels DEWE-PAD series moduels DEWE-EPAD series moduels DEWE-CPAD series modules (opt. for AUTO)
Interface:	USB2 High-speed
Operating temperature:	-0 °C to 55 °C
Storage temperature:	-20 °C to 85 °C
Humidity (operating):	10 % to 80 %, non condensing
Dimensions (W x D x H):	approx. 438 x 253 x 135 mm (17.2 x 10 x 5.3 in.)
Weight:	typ. 7 kg (15.4 lbs), without modules typ. 8.8 kg (19.3 lbs) fully equipped with DAQP-V-B

Dimensions*



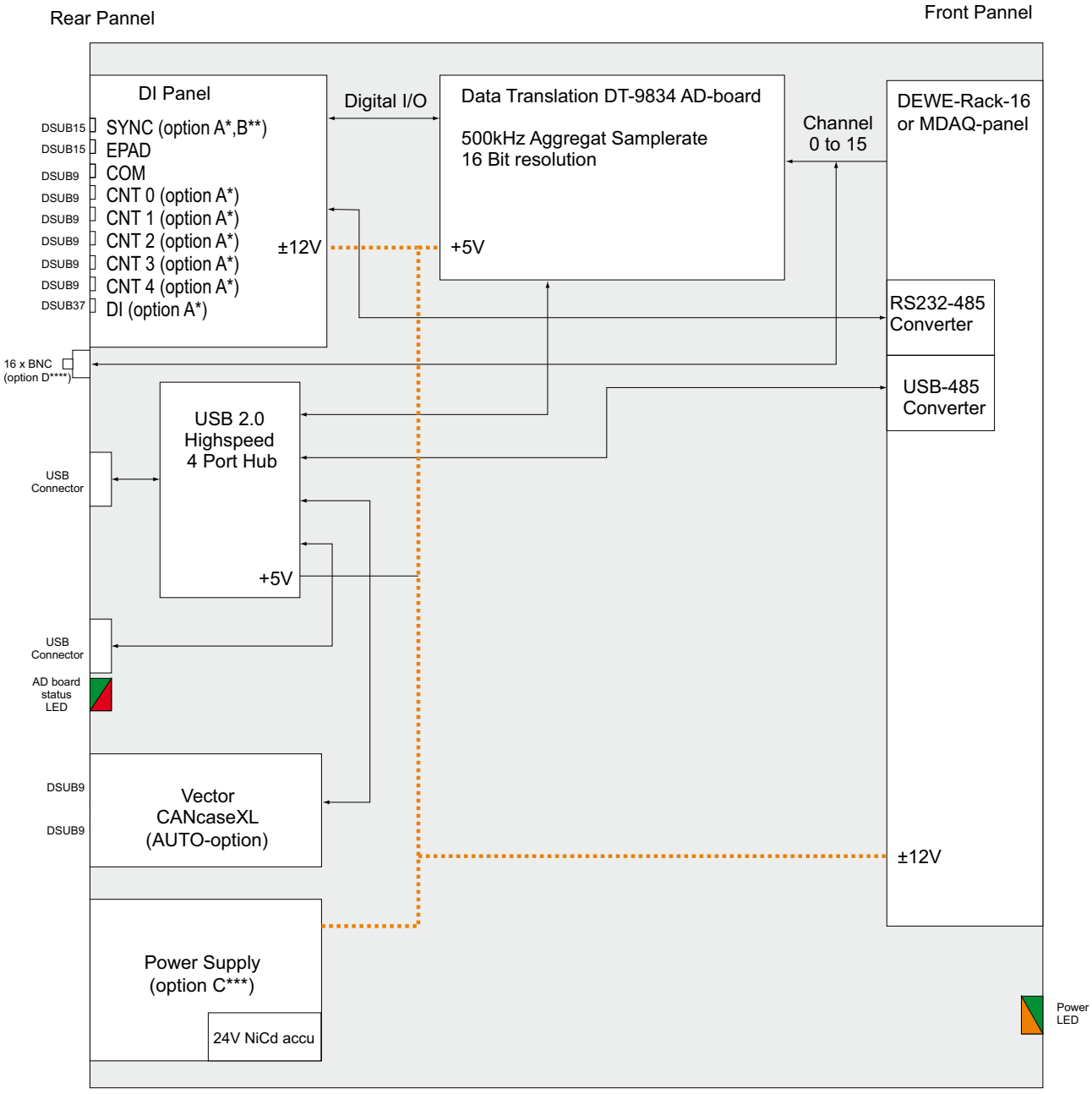






* Dimensions in mm
(1 inch = 25.4 mm)

Internal wiring including all options



* option A: 50-USB2-DIO-PANEL-1
** option B: 50-USB2-SYNC
*** option C: 50-DC-POW (external 115 or 230 VAC power supply)
**** option D: 50-USB2-16-OUT-5
50-USB2-16-OUT-10

DT 9834 AD-board

Analog input specifications

Analog input			
Number of inputs	up to 32 SE		
Resolution	16-bit		
Programmable gain	1,2,4,8		
Range	16-bit		
Effectiv number of bits	±10 V, 5 V, 2.5 V, 1.25 V		
A/D throughput	Successive approximation (SAR)		
Single channel	500 kS/s		
Multiple channel	500 kS/s (aggragate) ±0.05 %		
A/D conversion time	2 µs		
Channel acquisition time	±1/2 LBS, 1 µs typ.		
Sample and hold aperture uncertainty	2 ns typ.		
Sample and hold aperture delay	50 ns typ.		
System accuracy (% of FSR)	500 kHz	400 kHz	250 kHz
Gain = 1	±0.05 %	±0.03 %	±0.01 %
Gain = 2 (5 V Range, default range)	±0.06 %	±0.04 %	±0.02 %
Gain = 4	±0.07 %	±0.05 %	±0.02 %
Gain = 8	±0.09 %	±0.07 %	±0.03 %
Bipolar input range	±10 V		
Common Mode Input Voltage	±11 V		
Common Mode rejection ratio	Gain = 1 @ 1 kΩ 74 dB 80 dB		
Maximum input voltage without damage			
Power on	±35 V		
Power off	± -20 V		
Input impedance	< -93 dB		
Off channel	100 MΩ, 10 pf		
On channel	100 MΩ, 10 pf		
Bias current	±20 nA		
Nonlinearity	<1/2 LSB		
Differential Nonlinearity	1/2 LSB		
Inherent quantizing error	1/2 LSB		
A/D zero drift	±10 µV / °C		
Gain drift (of FSR / °C)	±30 ppm / °C		
Differential Linearity drift (of FSR / °C	±3 ppm ±2 ppm		

Analog output specifications (optional)

Analog output	DT 9834 AD-board
Number of outputs	4 (routed to Pin 7 of channel 12 to 15)
Resolution	16-bit
Range	±10 V
Throughput	500 kS/s/channel
FIFO	128 kS
Current output	5 mA maximum load
Output impendance	0.1 Ω
Protection	short circuit to ground
Slew rate	10 V / µs
Nonlienarity	1 LBS
Differential nonlinearity	1 LBS
Acuuracy	0.1 % FSR (adjustable)
Offset drift	±10 ppm of FSR / °C
Gain drift	±30 ppm

Power supply

DC NET-202 + accu power supply

The power supply supports DC-UPS function. When the DC supply is lost, the Power LED on the front turns from green into orange. 30 seconds before the book shuts down, an acoustic beep signal occurs.

DC Power supply	NET-202 DC + Accu
Input:	
DC and battery input:	10 to 32 V_{DC}
Max. input current:	startup peak up to 25 A
Input power:	160 W
Input voltage priority:	1. DC voltage 2. Accu
Battery type:	NiCd, 24 V_{DC}, 600 mAh
Output:	
Output power:	160 W
Output voltages:	+5 V (max. 20 A) -5 V (max. 0.3 A) +12 V (max. 5 A) -12 V (max. 0.4 A)
Power LED:	
dim green:	DC connected to system, system powered off
bright green:	DC connected to system, system powered on
orange:	system powered on, working via accu
red:	starts 30 sec. before accu is getting low together with beep signal

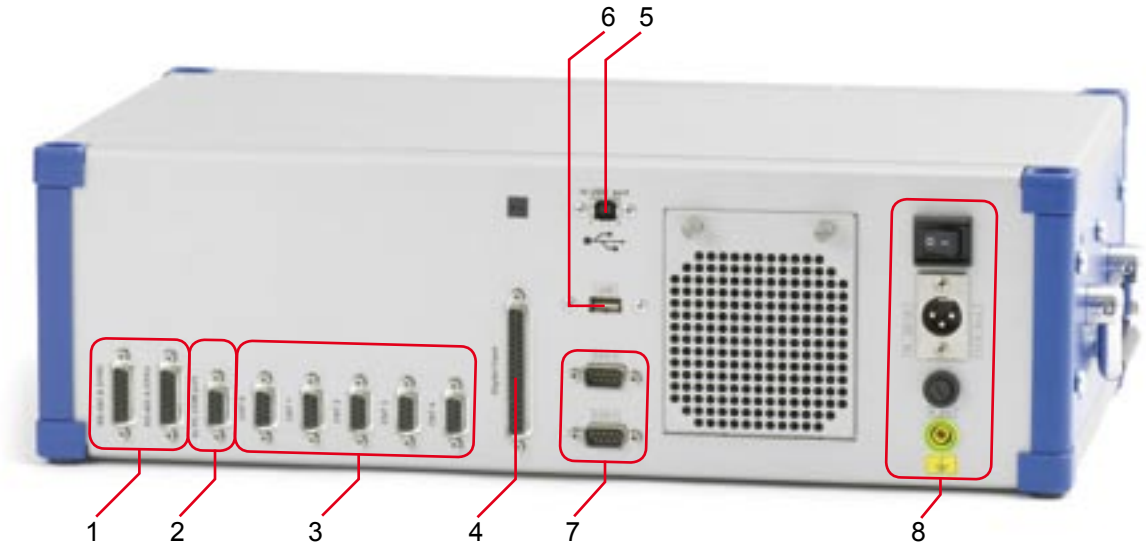
DC AVP-2B/K (standard power supply)

DC Power supply	AVP-2B/K
Input:	
DC input:	9 to 40 V_{DC}
Max. input current:	5.6 A
Input power:	160 W
Output:	
Output power:	max. 51 W
Output voltages:	+12 V (max. 2 A) -12 V (max. 2 A)
Protection:	Overvoltage protection, excess temperature protection, polarity reversal protection
Fuse:	6.3 A

AC SPS-060-D3 power supply

60 W AC power supply	SPS 060P-D3
Input:	
Input range:	100 to 250 V_{AC}
Input frequency:	47 to 63 Hz or DC
Max. input current:	1.8 A @ 230 V_{DC}
Output:	
Output power:	60 W
Output voltages:	+12 V (max. 3.4 A) -12 V (max. 3.4 A)

Rear connectors

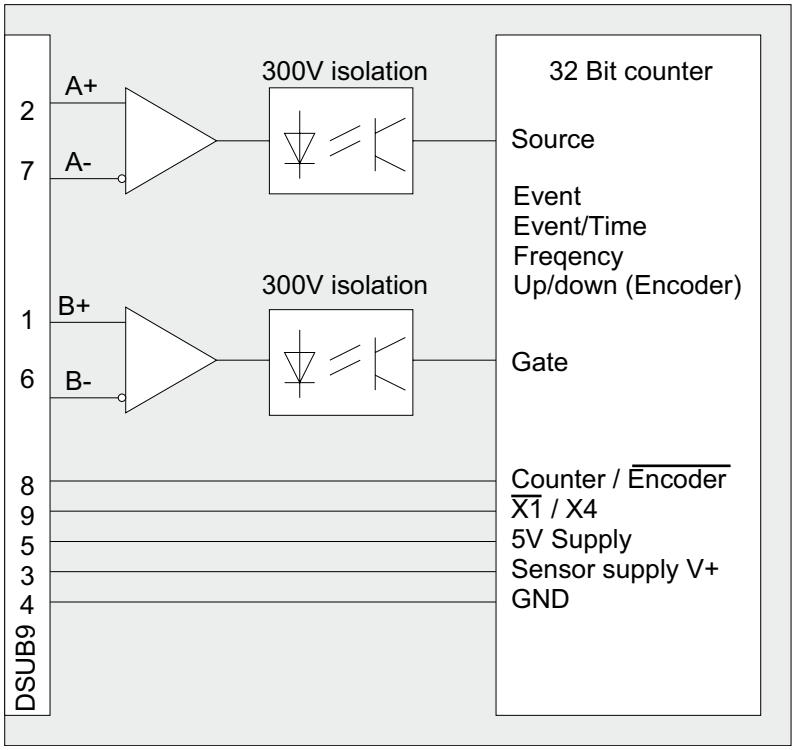


Typical DEWE-50-USB2-16-AUTO rear view

1.) RS485 & synchronization connector
2.) Serial port
3.) Counter input
4.) Digital input
5.) USB2 interface (connect to the PC)
6.) free USB2 port (for webcam or dasy chaining)
7.) 2 CAN ports (manufacturer vector)
8.) Power connector

Note: The location of the connectors might vary from system to system and depends on system configuration

Counters



Block diagram of counter 0 to 7

Electrical characteristics

Counter / encoder input pairs (A+; A-; B+; B-)

Pins:

PIN 1	B+
PIN 2	A+
PIN 6	B-
PIN 7	A-

Logic low: 0 to 2 V
Logic high: 4 to 50 V
Bandwidth: 5 MHz
Galvanic isolated (300 V)

Selection pins

PIN 8	Counter to encoder selection (not connected is counter)
PIN 9	X1 / X4 selection (not connected is X4 mode)

maximum input voltage: TTL

Supply voltage:

Pins:

PIN 3	V+ (DEWE-50: 12 V DEWE-51: 15 V)
PIN 4	GND
PIN 5	+5 V

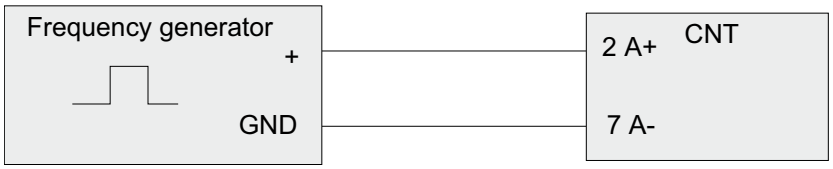
Counter modes

Event counting

The counter counts every rising edge of the source pin; the gate input has to be logical high.

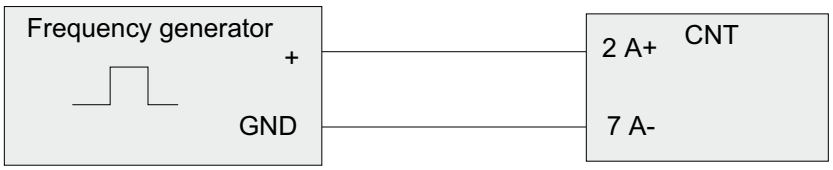
Event per time counting

- 100 ms
- 200 ms
- 500 ms
- sample rate



Frequency measurement with selectable gate time

- 100 ms
- 200 ms
- 500 ms
- 1 s



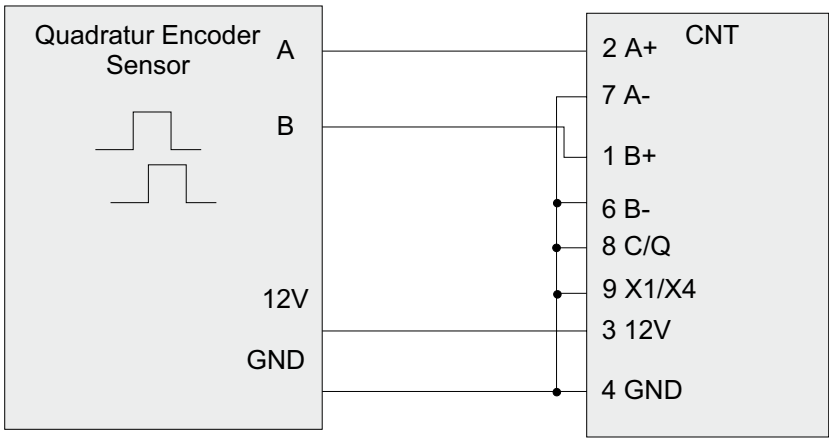
Up / down counting

Depending on the state of the gate input; the counter counts up if it´s high and down if it´s low.

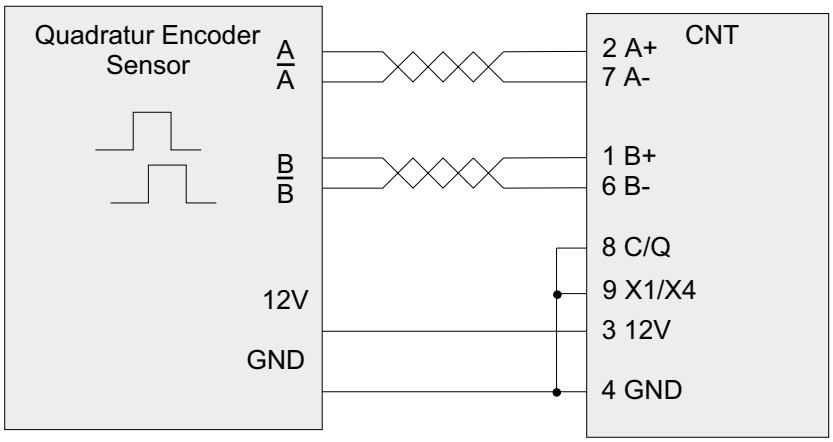
Encoder measurement X1 or X4 mode

Therefore a wire bridge in the input connector of the counter has to be set up.
Connect PIN 4 to PIN 8 to activate the encoder mode.
Also connecting PIN 9 to GND, the encoder changes from X4 to X1 mode.

Simple Encoder with TTL output:



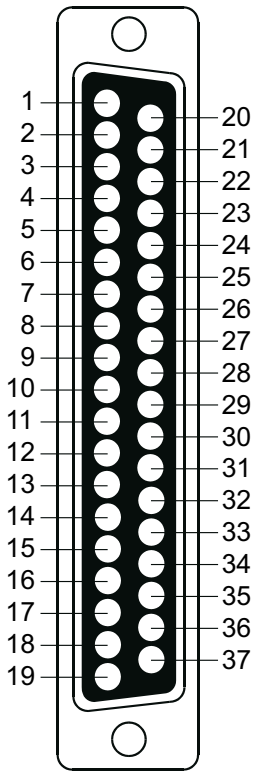
High speed encoder with differential output:



Digital input (optional)

Electrical characteristics:

Number of DIO:	16
Logic family:	LVTTL
Input type:	Level sensitive
Input termination:	Input tieds to +3.3 V with 15 kΩ pullup resistors
Input logic load:	1 LVTTL load
Logic high input voltage:	2.0 V minimum
Logic low input voltage:	0.8 V maximum
Logic low input current:	-0.4 mA maximum



37-pin female DSUB connector

PIN 1:	Digital Input 00
PIN 2:	Digital input 01
PIN 3:	Digital input 02
PIN 4:	Digital input 03
PIN 5:	Digital input 04
PIN 6:	Digital input 05
PIN 7:	Digital input 06
PIN 8:	Digital input 07
PIN 9:	Digital input 08
PIN 10:	Digital input 09
PIN 11:	Digital input 10
PIN 12:	Digital input 11
PIN 13:	Digital input 12
PIN 14:	Digital input 13
PIN 15:	Digital input 14
PIN 16:	Digital input 15
PIN 17:	n.c
PIN 18:	+5 V
PIN 19:	V+
PIN 20:	Digital GND
PIN 21:	Digital GND
PIN 22:	Digital GND
PIN 23:	Digital GND
PIN 24:	Digital GND
PIN 25:	Digital GND
PIN 26:	Digital GND
PIN 27:	Digital GND
PIN 28:	Digital GND
PIN 29:	Digital GND
PIN 30:	Digital GND
PIN 31:	Digital GND
PIN 32:	Digital GND
PIN 33:	Digital GND
PIN 34:	Digital GND
PIN 35:	Digital GND
PIN 36:	n.c
PIN 37:	Digital GND

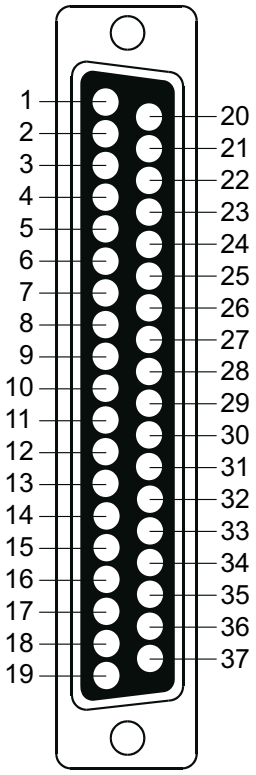
Galvanically isolated digital input (optional)

Electrical characteristics:

U_{off}	< 1.8 Volt	T_{ON}	< 160 nsec
U_{on}	> 3.2 Volt	T_{OFF}	< 160 nsec
Input current:		Bandwidth	> 3MHz
U_{IN}= 5 Volt	< 3.5 mA		
U_{IN}= 30 Volt	< 7 mA	**Isolation voltage:**	
U_{IN} max. continuous:	35 Volt	Channel to Channel	100 VDC
U_{IN} max. peak:	65 Volt	Input to Output	250 VDC

Input Levels:

L= Low
H= High

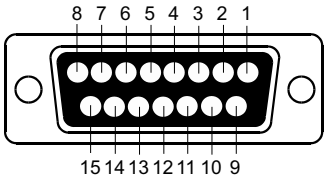


37-pin female DSUB connector

PIN 1:	Digital Input 00 H	PIN 31:	Digital Input 11 L
PIN 2:	Digital input 01 H	PIN 32:	Digital Input 12 L
PIN 3:	Digital input 02 H	PIN 33:	Digital Input 13 L
PIN 4:	Digital input 03 H	PIN 34:	Digital Input 14 L
PIN 5:	Digital input 04 H	PIN 35:	Digital Input 15 L
PIN 6:	Digital input 05 H	PIN 36:	n.c.
PIN 7:	Digital input 06 H	PIN 37:	Digital GND
PIN 8:	Digital input 07 H		
PIN 9:	Digital input 08 H		
PIN 10:	Digital input 09 H		
PIN 11:	Digital input 10 H		
PIN 12:	Digital input 11 H		
PIN 13:	Digital input 12 H		
PIN 14:	Digital input 13 H		
PIN 15:	Digital input 14 H		
PIN 16:	Digital input 15 H		
PIN 17:	n.c.		
PIN 18:	+5 V		
PIN 19:	n.c.		
PIN 20:	Digital Input 00 L		
PIN 21:	Digital Input 01 L		
PIN 22:	Digital Input 02 L		
PIN 23:	Digital Input 03 L		
PIN 24:	Digital Input 04 L		
PIN 25:	Digital Input 05 L		
PIN 26:	Digital Input 06 L		
PIN 27:	Digital Input 07 L		
PIN 28:	Digital Input 08 L		
PIN 29:	Digital Input 09 L		
PIN 30:	Digital Input 10 L		

RS485 & sync

For detailed information about synchronizing more devices refer to page ..

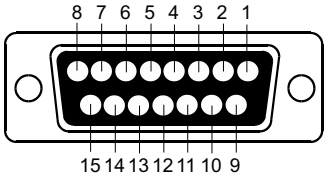


15-pin DSUB female connector

PIN 1:	RS485A	PIN 9:	n.c
PIN 2:	RS485 B	PIN 10:	n.c
PIN 3:	Digital GND	PIN 11:	n.c
PIN 4:	EXT AD-trigger	PIN 12:	n.c
PIN 5:	Digital GND	PIN 13:	n.c
PIN 6:	AD-Clock out	PIN 14:	n.c
PIN 7:	n.c	PIN 15:	n.c
PIN 8:	n.c		

RS485 & EPAD

This connector can be used to supply up to 8 EPAD moduels

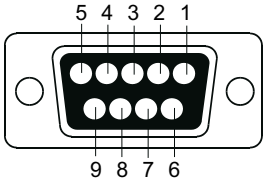


15-pin DSUB female connector

PIN 1:	RS485A	PIN 9:	n.c
PIN 2:	RS485 B	PIN 10:	n.c
PIN 3:	Digital GND	PIN 11:	n.c
PIN 4:	n.c	PIN 12:	n.c
PIN 5:	n.c	PIN 13:	n.c
PIN 6:	n.c	PIN 14:	GND
PIN 7:	n.c	PIN 15:	V+ (max. 800 mA)
PIN 8:	n.c		

COM port

The COM port can be used to control the DEWETRON modules instead of the internal USB to RS485 converter. In special cases it could also be used as a serial configuration port.



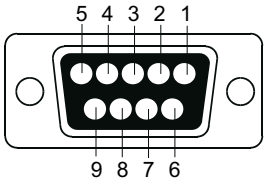
9-pin DSUB female connector

PIN 1:	n.c	PIN 6:	n.c
PIN 2:	to PC RX	PIN 7:	n.c
PIN 3:	to PC TX	PIN 8:	n.c
PIN 4:	n.c	PIN 9:	n.c
PIN 5:	to PC GND		

CAN bus (AUTO option)

The used CAN device is a vector CANCaseXL.
For detailed information regarding the CAN interface refer to the Vector CANCaseXL manual.

Specifications	
Microcontroller:	ATMEL AT91 (ARM7 TDMI 64 Mhz)
CAN controller:	2 x Phillips SJA 1000
CAN version:	CAN 2.0B
PC interface:	USB2.0
Operatin system:	Windows 2000, XP
Error frame / Remote frame:	Detection & generation
Board dimension approx.:	105 x 85 x 32 mm (4.1 x 3.3 x 1.3 in.)
Current consuption typ.:	250 mA
Supply voltage:	7 to 33 V
Standard piggyback:	CAN 1050 OPTO



9-pin DSUB female connector

PIN 1: n.c
PIN 2: CAN low
PIN 3: GND (Vb-)
PIN 4: reserved
PIN 5: shield
PIN 6: n.c
PIN 7: CAN high
PIN 8: reserved
PIN 9: n.c

DEWE-50-USB2-16 installation guide

System requirements

- Windows 2000 / XP
- Intel Pentium 4, 1 GHz processor or higher
- 512 MB RAM
- 50 MB free hard disk space
- USB2.0 port

Hardware driver installation

CAUTION: do not connect the DEWE-50-USB2-16 to the PC until all the drivers are installed!

- Insert the DEWE-System DVD
- Change to the directory \Install\Drivers\6_DAQBoards\DT
- Start the SetupOEMWin32.exe and follow the instructions.
- This will install the basic AD-board driver to your computer.
- Change to \Install\Drivers\7_Communication\DEWE-USB
- Start TI3410inst.exe
- This will install the internal USB to RS485 converter driver.
- Connect the DEWE-50-USB2 to the power supply and turn it on.
- Connect the DEWE-50-USB2 to a USB2.0 port of the PC.
- The operating system will automatically detect the new device and install the appropriate driver.
- Follow the individual driver setups from the AD-board and the USB-serial-converter.
- The vector CAN driver is automatically detected on the DEWE-System DVD.
- After finishing restart your computer.
- Check in the device manager if everything is installed properly. If there is a device missing or marked with a yellow sign proceed with trouble shooting on page..
- Keep the COM port number of the USB-serial-port within mind. It is the port that has to be selected in DEWESoft.

WARNING: It is strongly recommended to connect the DEWE-50 to the same USB connector of the computer all the time. Otherwise the COM port number changes and the installation becomes slow.

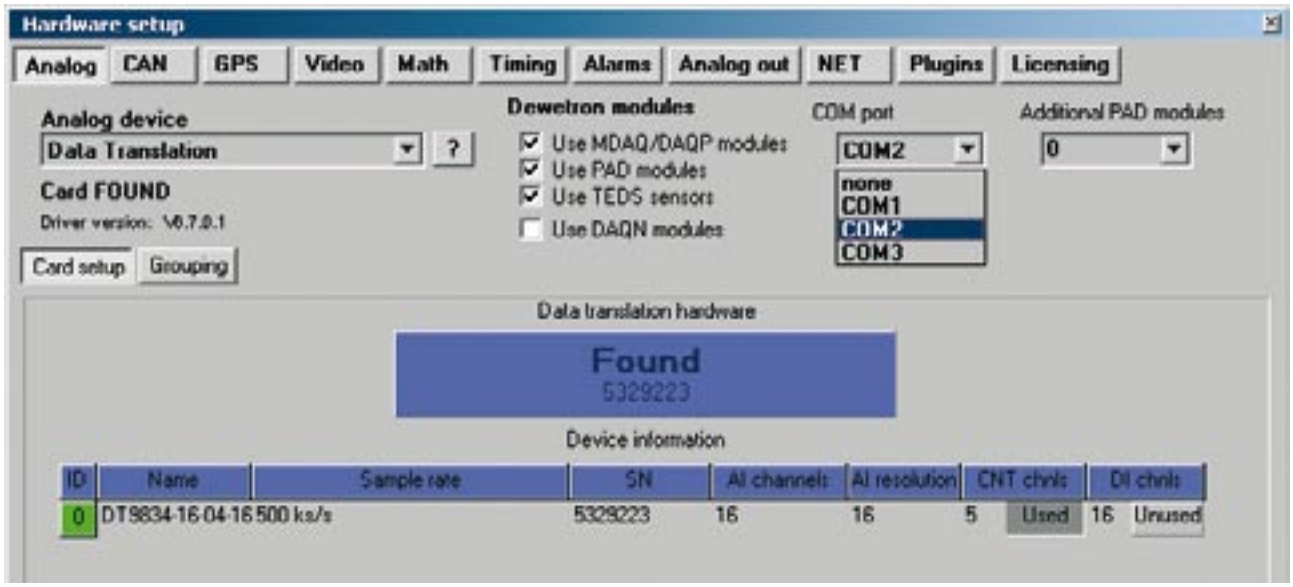
DEWESoft configuration

- *To configure your modules in the DEWETRON-system please install the software "DEWESoft" from your system-DVD and choose the option "DEWESoft for DEWEConfig mode" After the installation please start DEWESoft and enter the COM port where your modules are connected. (Note: Please don´t change the setting "Analog device" - it should be set to "No A/D Hardware"). Confirm the new settings with "OK", exit this menu and choose "Setup". Inthis overview you can add / remove modules and change the ranges and the addresses. (A detailed description can be found in the online manual of DEWESoft.)*

NOTE: This steps above only have to be made if you did not order DEWESoft with your DEWE-50-USB2-16 and want to install your system afterwards. Otherwise refer to the following steps of the DEWESoft configuration chapter.

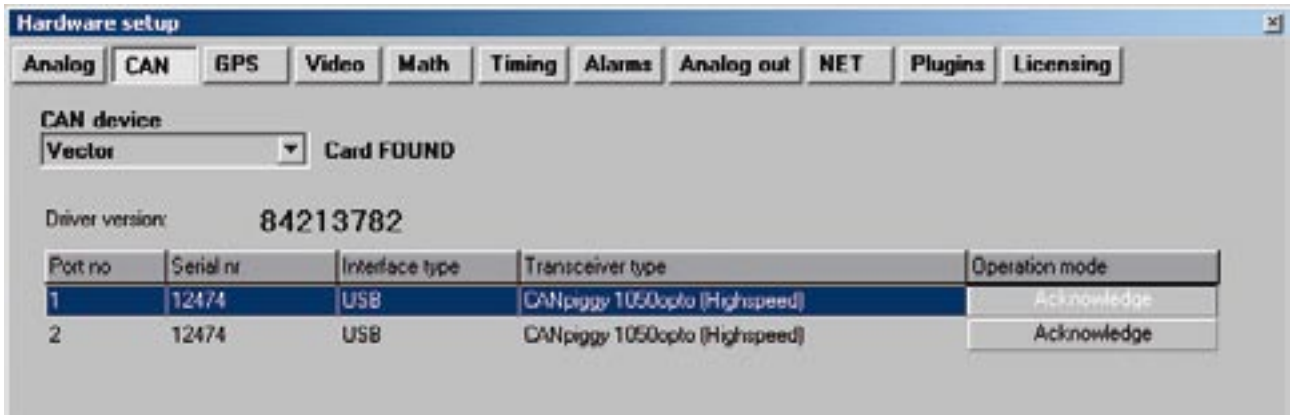
After installing DEWESoft you have to make following settings in the hardware setup:

- Select as analog device "Data translation"
- Select as COM port the internal USB-serial-port of the DEWE-50-USB2-16. It is listed as "USB-serial-port" in your device manager



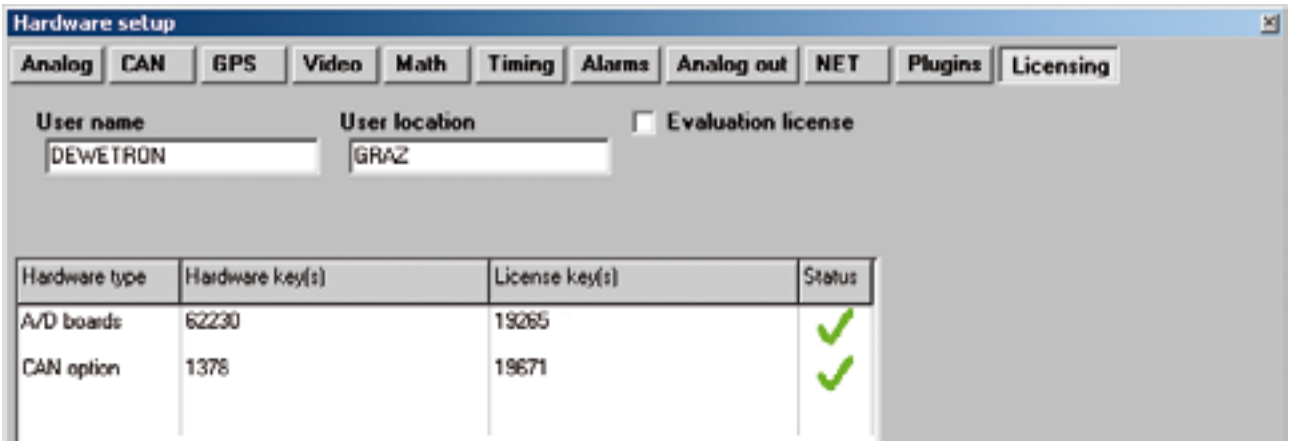
CAN setup (AUTO option)

Select the vector CAN driver in DEWESoft



DEWESoft licensing

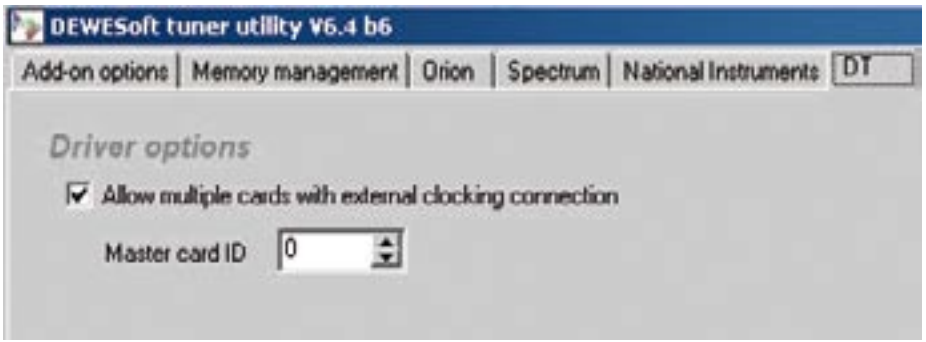
Enter in the hardware setup of DEWESoft the license keys from the license certificate you got with your DEWESoft.



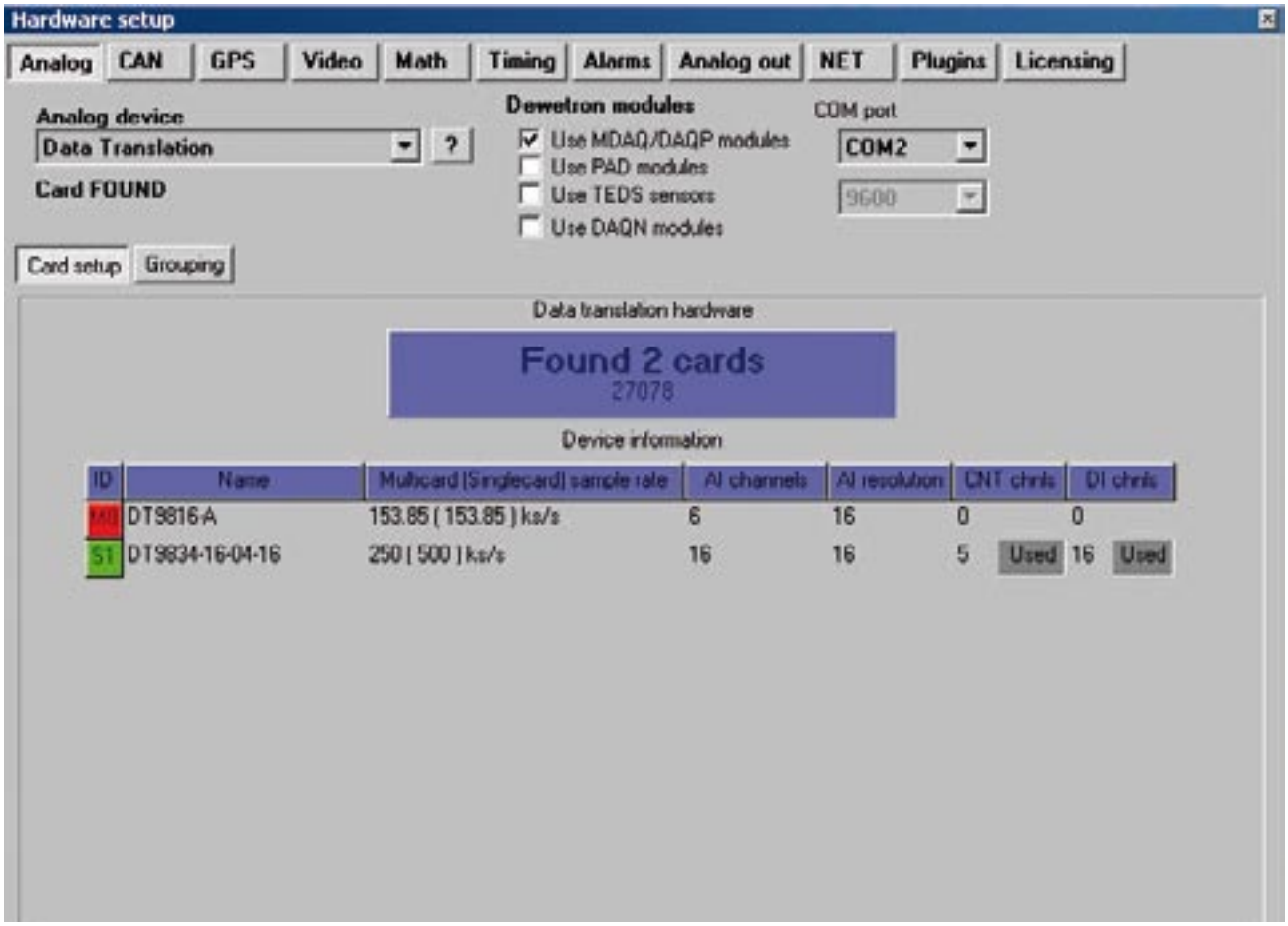
DEWESoft settings

DEWESoft automatically changes to the multi-board-mode if it detects more than one device installed in the system. If you do not want to do this, it is possible to deactivate it in the DEWESoft tuner located in the DEWESoft directory. Also the master board can be changed there.

WARNING: If DEWESoft is in mutli-board-driver-mode and there is no external sync cable it would not measure. (Measured values will be zero all the time.)



Example of DEWESoft hardware setup

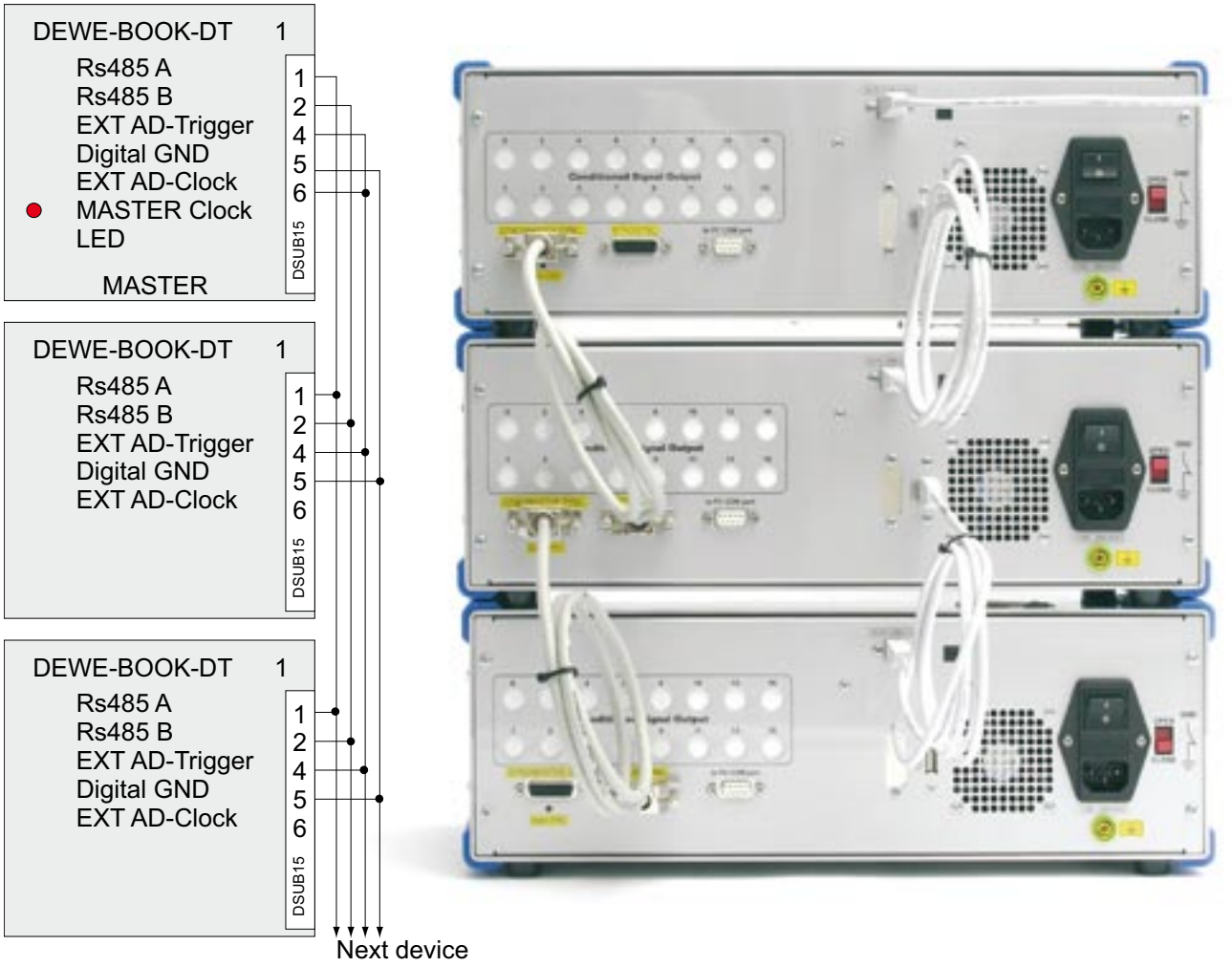


Synchronisation of more than one DEWE-50-USB2-16

How does it work

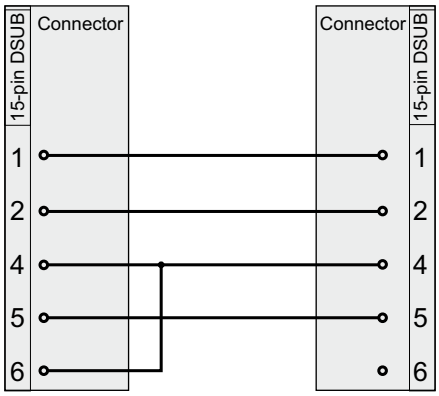
The synchronization of more than one DEWE-50-USB2 device is realized by using counter 0 of the master device for generating the sample clock for all devices. This includes the following limitations. The maximum sample rate is the half sample rate of the slowest device that is synchronized. The counter 0 of the master board could not be used for anything else.

Wiring

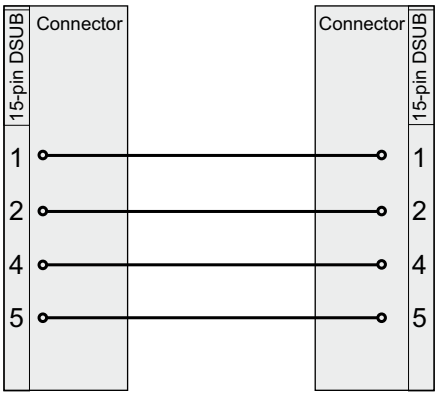


Cable

Masters sync cable



Sync cable



Trouble shooting

Q: ***DEWESoft doesn´t find the DAQP or PAD module. What can i do?***

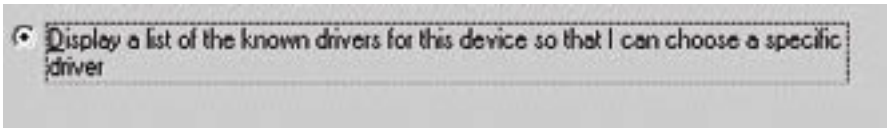
A: Be sure that the rigth COM port is selected in DEWESoft. It should be the one, which is mentioned as USB-serial port in the device manager.

Q: ***No USB-serial port is visible in the device manager. How can I reinstall it?***

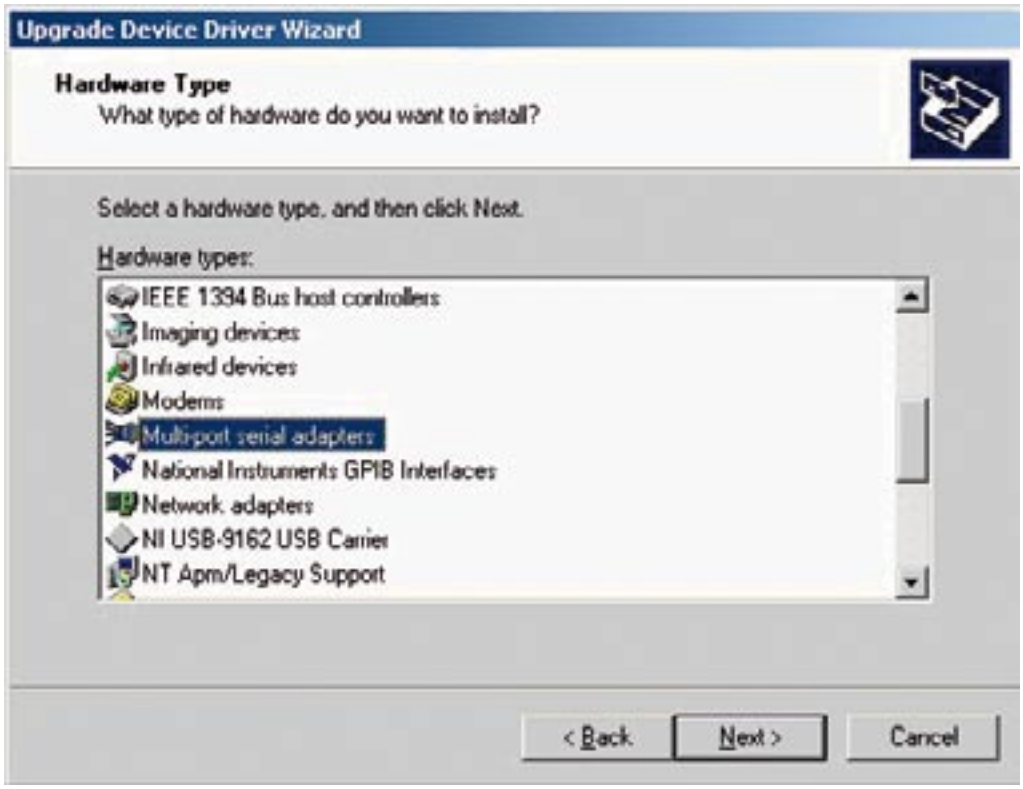
A: • Double click on the device

• Click on

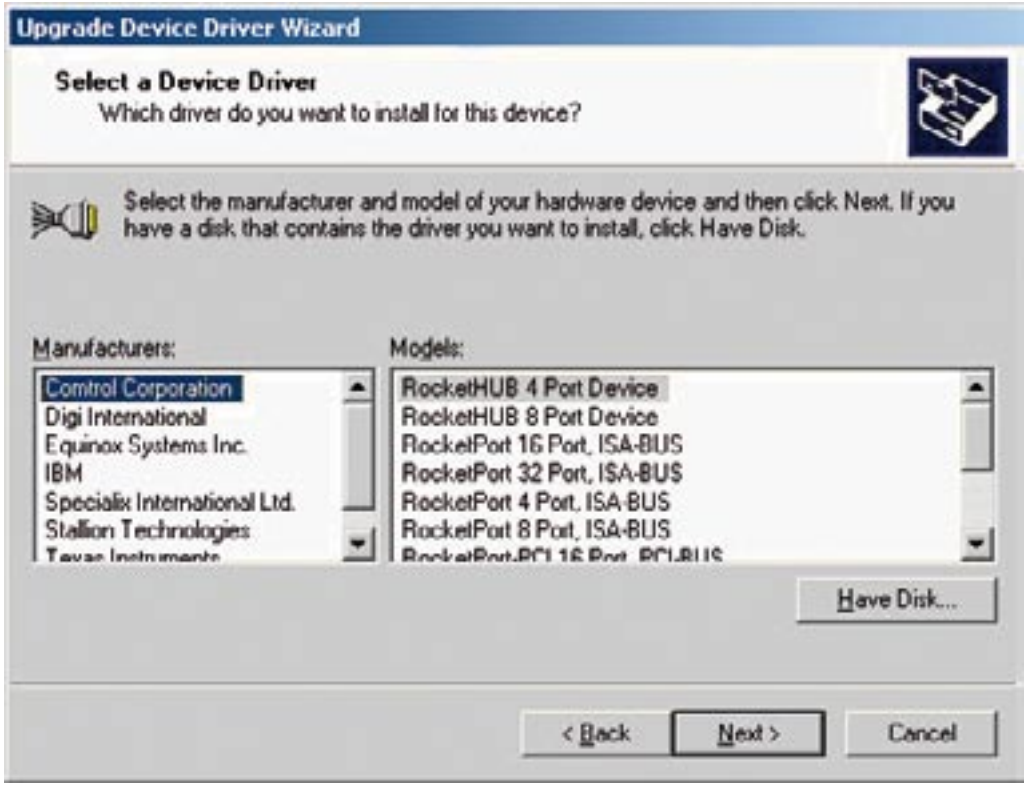
• Select



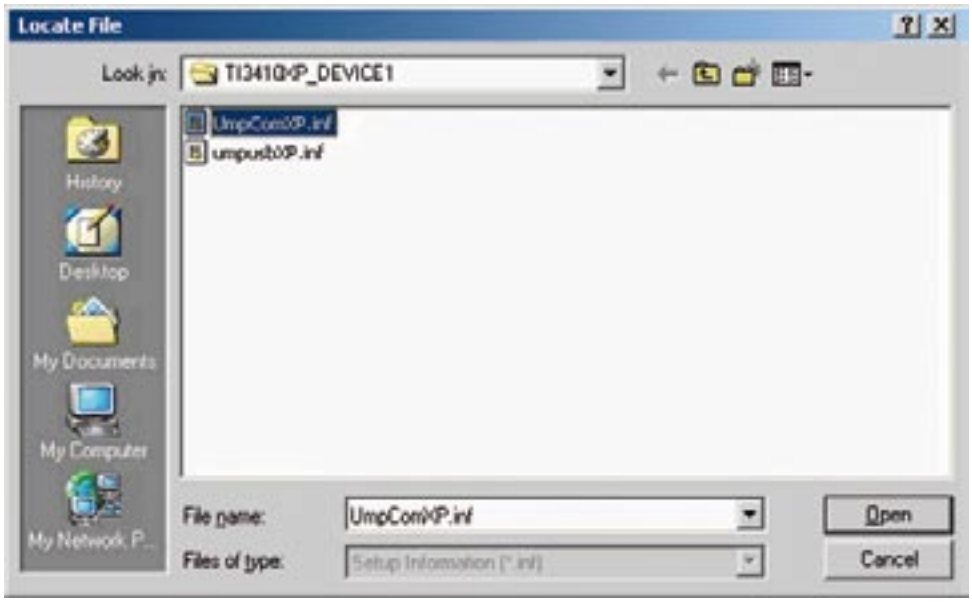
- Select multi-port serial adapter



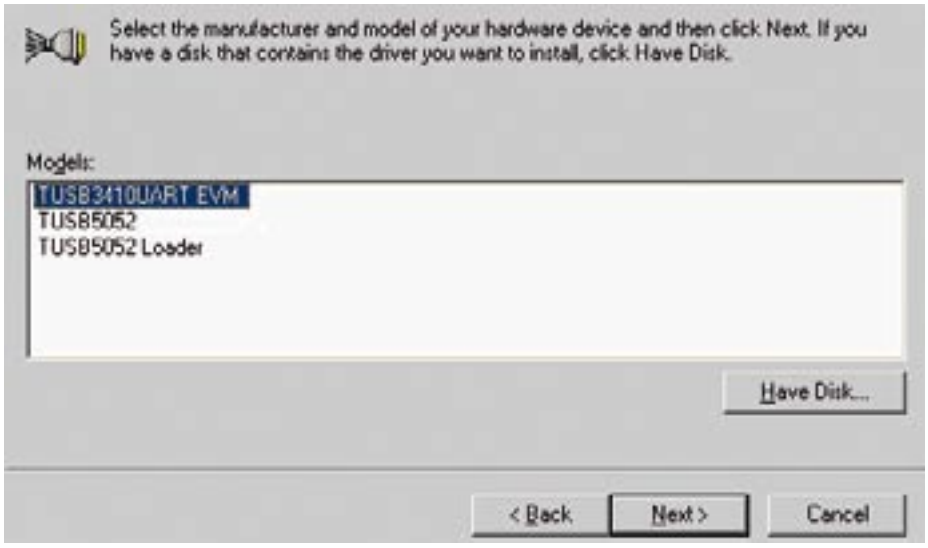
- Press on "Have disk"


Upgrade Device Driver Wizard
Select a Device Driver
Which driver do you want to install for this device?
Select the manufacturer and model of your hardware device and then click Next. If you have a disk that contains the driver you want to install, click Have Disk.
Manufacturers:
Comtrol Corporation
Digi International
Equinox Systems Inc.
IBM
Specialix International Ltd.
Stallion Technologies
Models:
RocketHUB 4 Port Device
RocketHUB 8 Port Device
RocketPort 16 Port, ISA-BUS
RocketPort 32 Port, ISA-BUS
RocketPort 4 Port, ISA-BUS
RocketPort 8 Port, ISA-BUS
Have Disk...
< Back
Next >
Cancel

- Select the following directory \DEWE-50-USB2\USB_RS485\DISK1\TI3410XP_DEVICE1
- Install UmpComXP.inf



- Install TUSB 3410UART EVM


Select the manufacturer and model of your hardware device and then click Next. If you have a disk that contains the driver you want to install, click Have Disk.
Models:
TUSB3410UART EVM
TUSB5052
TUSB5052 Loader
Have Disk...
< Back
Next >
Cancel

- After succesfully installation the device manager shows the following picture

Q: An error messages occurs when using maximum sampling rate. What can I do?

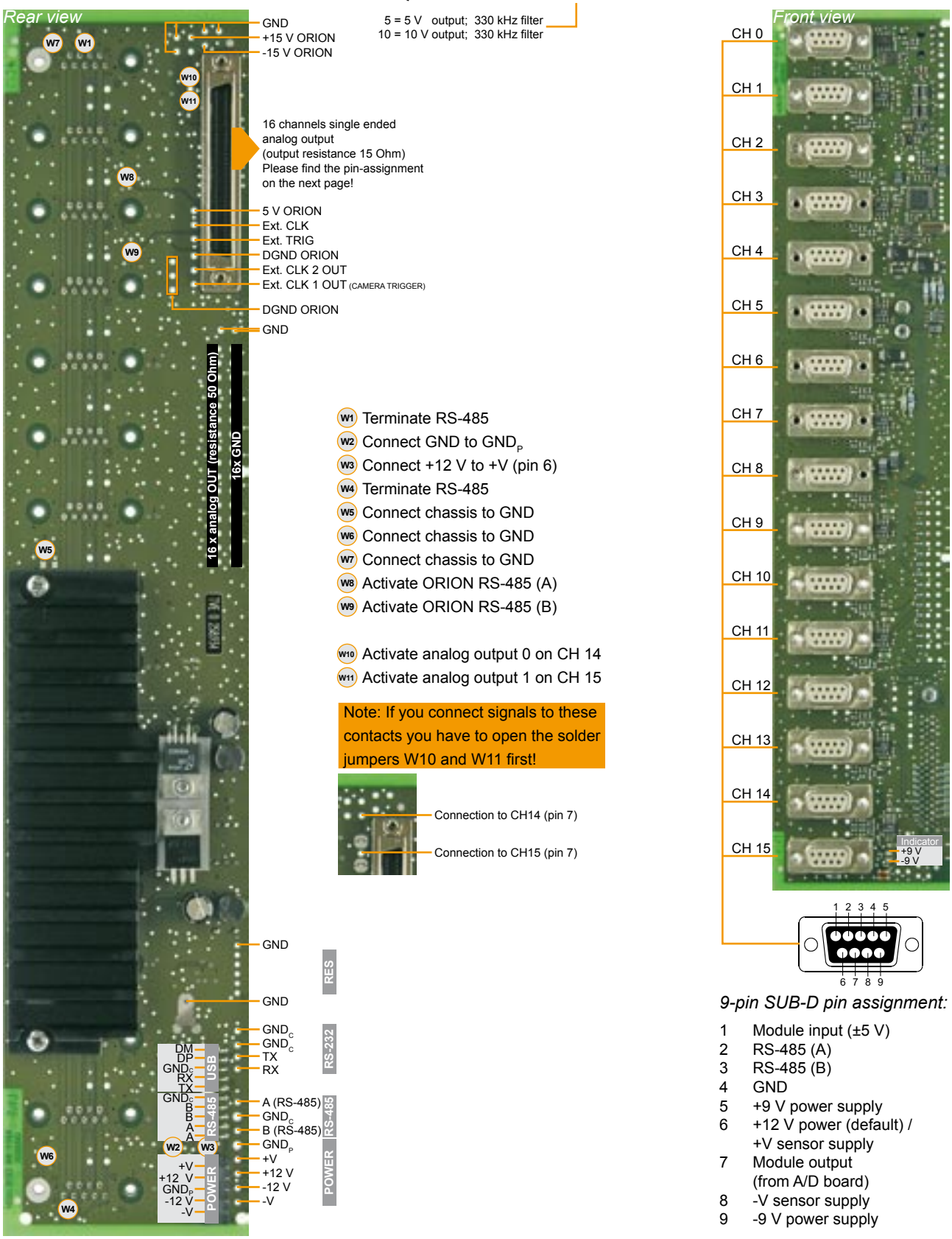
A: The used USB connector might not be USB 2.0 standard

Q: CAN device not found! Why?

A: Insert the DEWE-System DVD in your system and go to the directory \Install\Drivers\X_Various\Vector_CAN_53 and install the drivers manually.

Notes

16 slot DEWE-MOTHERBOARD DAQ-MOTH-16-DE-x



9-pin SUB-D pin assignment:

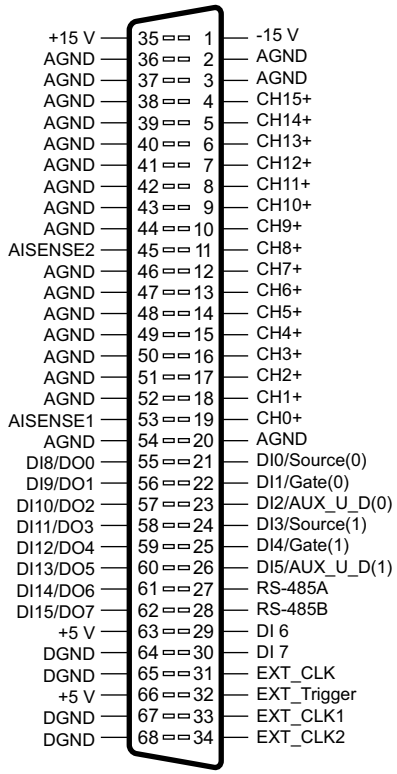
1	Module input (±5 V)
2	RS-485 (A)
3	RS-485 (B)
4	GND
5	+9 V power supply
6	+12 V power (default) / +V sensor supply
7	Module output (from A/D board)
8	-V sensor supply
9	-9 V power supply

The 16 slot DEWE-MOTHERBOARD receives the ±12 V_{DC} power supply via a DC/DC converter from the internal power supply.

Internal Wiring

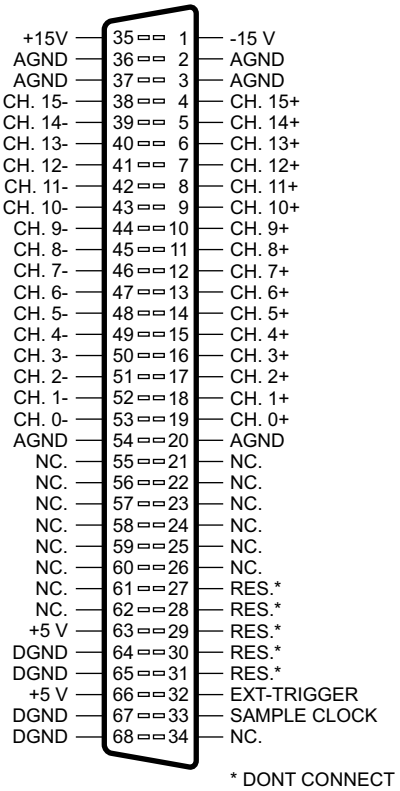
Analog output connector pin-assignment

Connector for DEWE-ORION-1616 cards


+15 V 35 1 -15 V
AGND 36 2 AGND
AGND 37 3 AGND
AGND 38 4 CH15+
AGND 39 5 CH14+
AGND 40 6 CH13+
AGND 41 7 CH12+
AGND 42 8 CH11+
AGND 43 9 CH10+
AGND 44 10 CH9+
AISENSE2 45 11 CH8+
AGND 46 12 CH7+
AGND 47 13 CH6+
AGND 48 14 CH5+
AGND 49 15 CH4+
AGND 50 16 CH3+
AGND 51 17 CH2+
AGND 52 18 CH1+
AISENSE1 53 19 CH0+
AGND 54 20 AGND
DI8/DO0 55 21 DI0/Source(0)
DI9/DO1 56 22 DI1/Gate(0)
DI10/DO2 57 23 DI2/AUX_U_D(0)
DI11/DO3 58 24 DI3/Source(1)
DI12/DO4 59 25 DI4/Gate(1)
DI13/DO5 60 26 DI5/AUX_U_D(1)
DI14/DO6 61 27 RS-485A
DI15/DO7 62 28 RS-485B
+5 V 63 29 DI 6
DGND 64 30 DI 7
DGND 65 31 EXT_CLK
+5 V 66 32 EXT_Trigger
DGND 67 33 EXT_CLK1
DGND 68 34 EXT_CLK2

68-pin high density connector

Connector for DEWE-ORION-1624 cards


+15V 35 1 -15 V
AGND 36 2 AGND
AGND 37 3 AGND
CH. 15- 38 4 CH. 15+
CH. 14- 39 5 CH. 14+
CH. 13- 40 6 CH. 13+
CH. 12- 41 7 CH. 12+
CH. 11- 42 8 CH. 11+
CH. 10- 43 9 CH. 10+
CH. 9- 44 10 CH. 9+
CH. 8- 45 11 CH. 8+
CH. 7- 46 12 CH. 7+
CH. 6- 47 13 CH. 6+
CH. 5- 48 14 CH. 5+
CH. 4- 49 15 CH. 4+
CH. 3- 50 16 CH. 3+
CH. 2- 51 17 CH. 2+
CH. 1- 52 18 CH. 1+
CH. 0- 53 19 CH. 0+
AGND 54 20 AGND
NC. 55 21 NC.
NC. 56 22 NC.
NC. 57 23 NC.
NC. 58 24 NC.
NC. 59 25 NC.
NC. 60 26 NC.
NC. 61 27 RES.*
NC. 62 28 RES.*
+5 V 63 29 RES.*
DGND 64 30 RES.*
DGND 65 31 RES.*
+5 V 66 32 EXT-TRIGGER
DGND 67 33 SAMPLE CLOCK
DGND 68 34 NC.
* DONT CONNECT

68-pin high density connector

EC-Certificate of conformity

Manufacturer: **DEWETRON Elektronische Messgeraete Ges.m.b.H.**

Address:

Parkring 4
A-8074 Graz-Grambach Austria

Tel.: +43 316 3070 0
Fax: +43 316 3070 90
e-mail: sales@dewetron.com
http://www.dewetron.com

Name of product: **DEWE-50-USB2-16**

Kind of product: *ADC Rack*

The product meets the regulations of the following EC-directives:

73/23/EEC
"Directive on the approximation of the laws of the Member States relating to electrical equipment designed for use within certain voltage limits amended by the directive 93/68/EEC"

89/336/EEC
"Directive on the approximation of the laws of the Member States relating to electromagnetic compatibility amended by the directives 91/263/EEC, 92/31/EEC, 93/68/EEC and 93/97/EEC

The accordance is proved by the observance of the following standards:

LV	**Safety**	IEC/EN 61010-1:1992/93 IEC/EN 61010-2-031	IEC 61010-1:1992/300 V CATIII Pol. D. 2 IEC 1010-2-031
EMC	**Emissions**	EN 61000-6-4	EN 55011 Class B
	Immunity	EN 61000-6-2	Group standard

Graz, Nov. 15th, 2004
Place / Date of the CE-marking

Ing. Herbert Wernigg / Managing director

Notes